

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

06 DEC 2004

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
18 December 2003 (18.12.2003)

PCT

(10) International Publication Number
WO 03/104833 A2

(51) International Patent Classification⁷: **G01S**

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(21) International Application Number: **PCT/IL03/00472**

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(22) International Filing Date: 4 June 2003 (04.06.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(30) Priority Data:
60/386,893 6 June 2002 (06.06.2002) US

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

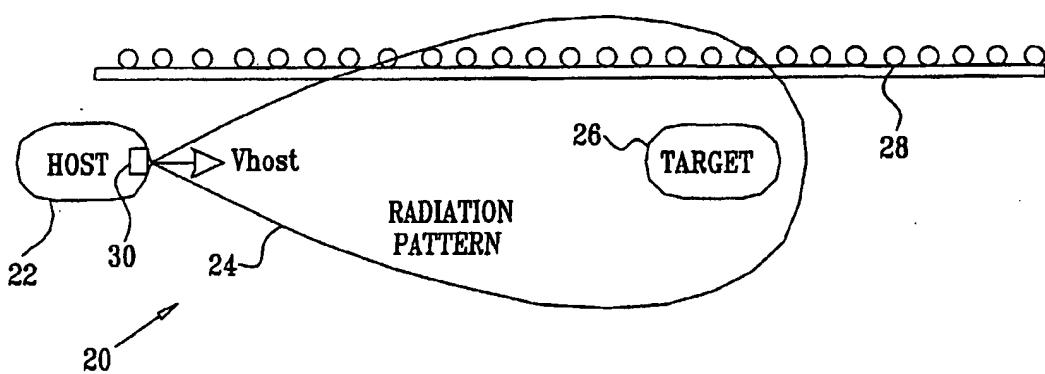
(72) Inventors; and

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FORWARD-LOOKING RADAR SYSTEM



WO 03/104833 A2

(57) **Abstract:** An assembly for receiving and transmitting millimeter (mm) waves, including at least one mm wave reflector (84, 86, 88) and at least one mm transmission wave feed (72) configured in a transmission feed location (34) within the at least one mm wave reflector. The assembly also includes a plurality of receiving mm wave feeds (72) configured in respective receiving feed locations (36) within the at least one mm wave reflector; and a radio frequency (RF) module (38). The RF module is coupled to the at least one mm transmission wave feed and to the plurality of the receiving mm wave feeds, so as to drive the at least one mm transmission wave feed to transmit outgoing mm waves and to simultaneously receive incoming mm waves from all of the plurality of the receiving mm wave feeds.